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(54) POSITIVE TYPE PHOTORESIST DEVELOPING SOLUTION

(57)Abstract:

PURPOSE: To improve the wettability of a developing soln. with a resist surface and to improve the selection ratio of a solution velocity as well as to eliminate defective development and sharp-cutting by using an aq. org. quaternary ammonium hydroxide soln, as an essential component and incorporating a fluorine contg. cationic surfactant and an org. solvent to be added at need therein. CONSTITUTION: The ag. org. quaternary ammonium hydroxide soln, is used as the essential component and the fluorine contg. cationic surfactant as well as the org. solvent to be added at need are incorporated therein. The ag. org. quaternary ammonium hydroxide soln. to be used as the essential component is the aq. soln. of 0.1W10wt.%, more preferably 1W5.5wt.% compd. expressed by formula I (where, R6WR9 denote alkyl groups or hydroxy-substd. alkyl groups of 1W3C which are the same or different from each other). The wettability of the developing soln, to the resist surface is thereby improved and the selection ratio of the solution

 $\begin{bmatrix} R_1 - \overset{R_6}{N} - R_9 \end{bmatrix} OH^{-1}$

velocity between the exposed part and the non-exposed part is improved without lowering the heat resistance of the resist; in addition, the defective development (scum, residue of resist) and the sharp-cutting are eliminated.

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